Amendments to the Drawings:

The attached sheet of drawings includes a change to Figure 8. This sheet, which

includes Figures 3, 4, and 8 replaces the original sheet including Figures 3, 4, and 8.

In Figure 8, the missing reference numeral "52" has been added.

<div align="center">REMARKS</div>

This application has been carefully reviewed in light of the Office Action dated October 31, 2006. Applicant has amended claims 1, 4, 6, and 9. Reconsideration and favorable action in this case are respectfully requested.

The Examiner has objected to the drawings. A replacement page including Figure 8 is attached.

The Examiner has objected to claims 4 and 9 as being in improper form for multiple dependent claims. These claims have been amended to refer to the claims in the alternative.

The Examiner has objected to claims 1 and 6 under 35 U.S.C. 101 as not being directed to a practical application of the idea. Applicant has amended these claims.

The Examiner has rejected claims 1 and 6 under 35 U.S.C. §102(e) as being unpatentable over U.S. Pub. No. 2002/0056068 to Aymar. Applicant has reviewed this reference in detail and does not believe that it discloses or makes obvious the invention as claimed.

The Examiner has rejected claims 1, 5, 6 and 10 under 35 U.S.C. §102(e) as being unpatentable over U.S. Pat. No. 6,970,520 to Lindborn. Applicant has reviewed this reference in detail and does not believe that it discloses or makes obvious the invention as claimed.

The Examiner has rejected claims 2-4 and 7-9 under §103 as being unpatentable over Aymar in view of Lindborn. Applicant has reviewed these references in detail and does not believe that they disclose or make obvious the invention as claimed.

With regard to the Aymar reference, the Examiner states that Aymar discloses circuitry for generating a sequence of probably symbols from a sequence of received symbols using Reduced State Sequence Estimation (RSSE), because RSSE is one form of MLSE (Maximum Likelihood Sequence Estimation). While the Examiner is correct that RSSE is a form of MLSE, Applicant believes that the Examiner is incorrect that Aymar shows circuitry which generates a sequence of probable symbols using RSSE, as is specified by the claim. Applicant can find no indication that Aymar uses a reduced number of states such as is used in RSSE. Aymar thus shows a form of MLSE which is clearly *not* RSSE.

Further, Aymar does not teach the use of butterfly circuitry for computing terms in butterfly structure of $sm_1' = \min\{sm_1 + m, sm_2 - m\}$ and $sm_2' = \min\{sm_1 - m, sm_2 + m\}$. If the Examiner's contention is correct that Figure 3B of Aymar shows the butterfly circuitry with $S_{\mu-1,i}$ corresponding to sm_1, $S_{\mu-1,i+1}$ corresponding to sm_2, $S_{\mu,j}$ corresponding to sm_1', $S_{\mu,j+N/2}$ corresponding to sm_2', -d corresponding to $-m$ and d corresponding to m, then Figure 3B shows $sm_1' = min\{sm_1-d, sm_2-d\}$ and $sm_2' = min\{sm_1+d, sm_2+d\}$. Hence, these are clearly different butterfly computing circuits.

Thus, Aymar shows the use of a *different* butterfly computing circuit that is used with a form of MLSE which is *not* RSSE. Accordingly, Aymar does not anticipate claim 1.

For reasons set forth in connection with Claim 1, Aymar also does not anticipate claim 6.

Similarly, Lindbom does not show circuitry for generating a sequence of probable symbols using RSSE, nor does it show butterfly circuitry for computing the specified terms. As in Aymar, Lindbom teaches a form of MLSE which is not RSSE. Further, the text and figures cited by the Examiner do not show the specific butterfly

circuitry specified by claim 1. This is explicit in the equations shown on Figures 4A-B. The text cited by the Examiner only talks about generalized computation of branch metrics.

Hence, Lindbom does not teach the subject matter of claim 1. For reasons stated above in connection with claim 1, Lindbom also does not teach the subject matter of claim 6.

Accordingly, Applicant respectfully requests allowance of independent claims 1 and 6 and dependent claims 2-5 and 7-10.

With regard to claims 2-4, the Examiner states that Lindbom states that angle rotation results in calculations that are more computationally efficient, citing column 2, lines 59-60. This citation is discussing reordering old survivor metrics and delta metrics and has no correlation to rotation of received symbols or reference symbols, as specified by the claims. Applicant could find nothing in Lindbom that would indicate that either the reference or received symbols are rotated.

An extension of three months is requested and a Request for Extension of Time under § 1.136 with the appropriate fee is attached hereto.

The Commissioner is hereby authorized to charge any fees or credit any overpayment, including extension fees, to Deposit Account No. 20-0668 of Texas Instruments Incorporated.

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Alan W. Lintel, Applicant's Attorney at (972) 664-9595 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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April 24, 2007
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